

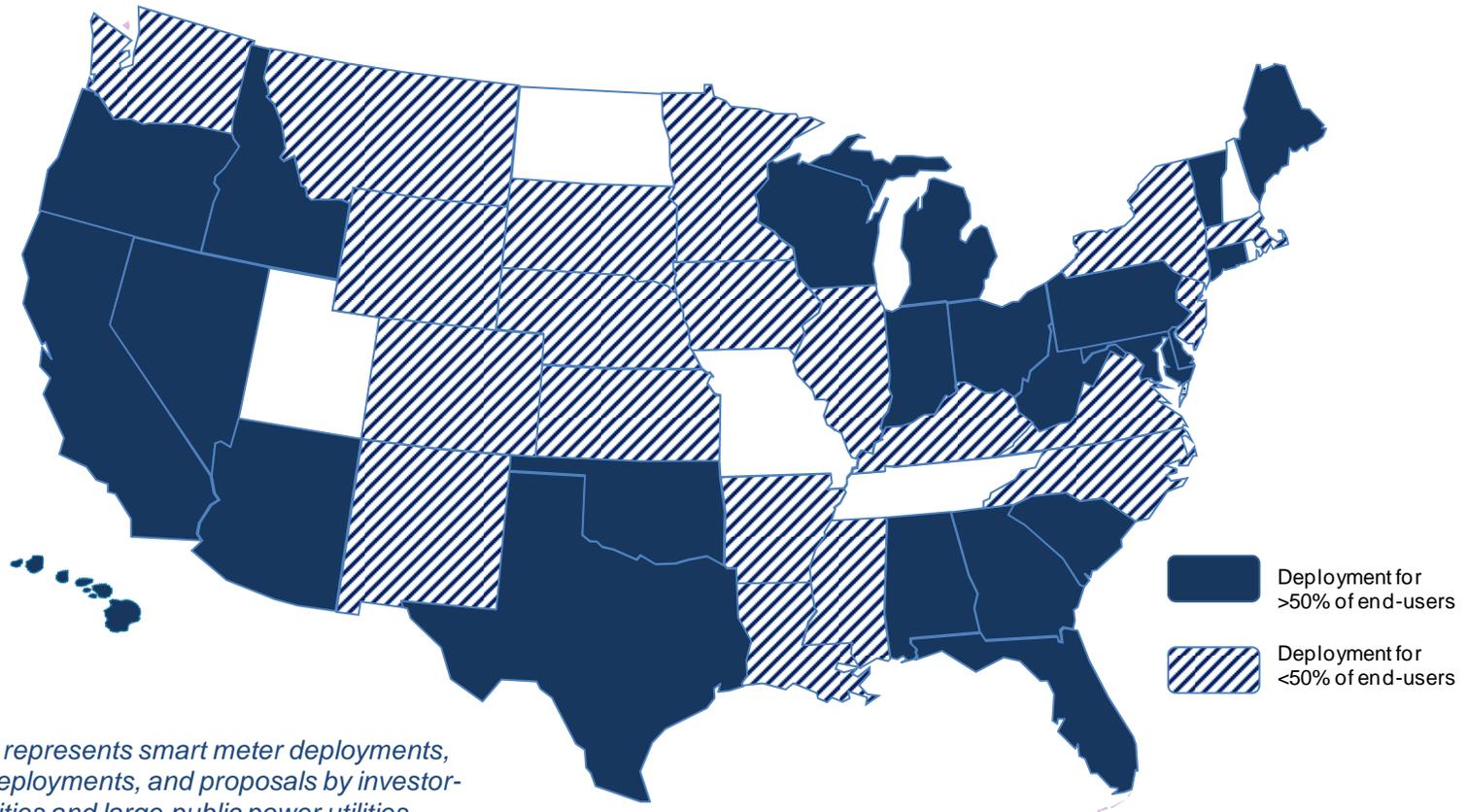
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# The Governor's Conference on Energy Track IV: DSM: In front of the meter or behind? Overview of Issues Nationwide

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Richmond, VA  
October 13, 2010

Utility scale smart meter deployments, plans, and proposals – about 65 million meters will be deployed. About 50% of US households over next 5-7 years.



*\*This map represents smart meter deployments, planned deployments, and proposals by investor-owned utilities and large public power utilities.*



# Smart meters: What do we know so far?

- Smart meters are a building block and an enabling technology for:
  - Smart homes/buildings, smart appliances, smart rates and demand response,
  - Distributed generation,
  - Plug in hybrid electric vehicles,
  - The smart grid.
- Smart meters are accurate
  - Structure Consulting Group study of PG&E meters, Sept. 2010
  - Navigant study of smart meters across Texas, Aug., 2010
  - Multiple other studies by utility companies.
- Utilities are getting some pushback on deployments



# Smart meters: Why the pushback?

- Traditionally, utilities upgraded their infrastructure with little input from the public. However, smart meters are not the “typical” system upgrade. Why?
  - Over hyped by vendors and media
  - Federal government spending has sped up the process
  - Some benefits occur in front of the meter; some behind the meter.
- Pushback – Some examples
  - PG&E - Bakersfield “billing” issues started in 2009. In September, installation halted in areas of Marin County.
  - MD PUC concerns about BGE’s deployment
    - BGE’s initial proposal rejected by PUC; refiled and accepted. BGE now rolling out smart meters.
  - Duke Energy’s proposal in Indiana for statewide rollout initially rejected; Duke moving forward with pilot.



# Smart meters: Lessons learned so far

- Customer education and engagement are critically important
- State regulators are asking/will ask for detailed customer communications plans
- The need to develop and implement a comprehensive customer communications strategy is clear
  - Educate customers about smart meter deployments and additional programs and services to follow
  - Communicate the benefits to customers including ways for customers to engage
  - Incorporate messages into all customer service efforts at the utility

# What are the typical benefits from smart meters for residential customers?

- AMI operational benefits – outage detection; automated meter reading; remote connect/disconnect.
- AMI coupled with dynamic pricing enables demand response. DR reduces system peak resulting in avoided capacity costs, avoided energy costs, and carbon reduction.
- Real time energy use information results in energy savings, bill savings, and carbon reduction.
- Smart meters enable distributed generation; DG reduces consumer energy bills and carbon.
- Smart meters enable “smart charging” of PHEVs.

# Smart meter platform & new home technologies will take “demand side” management to new levels

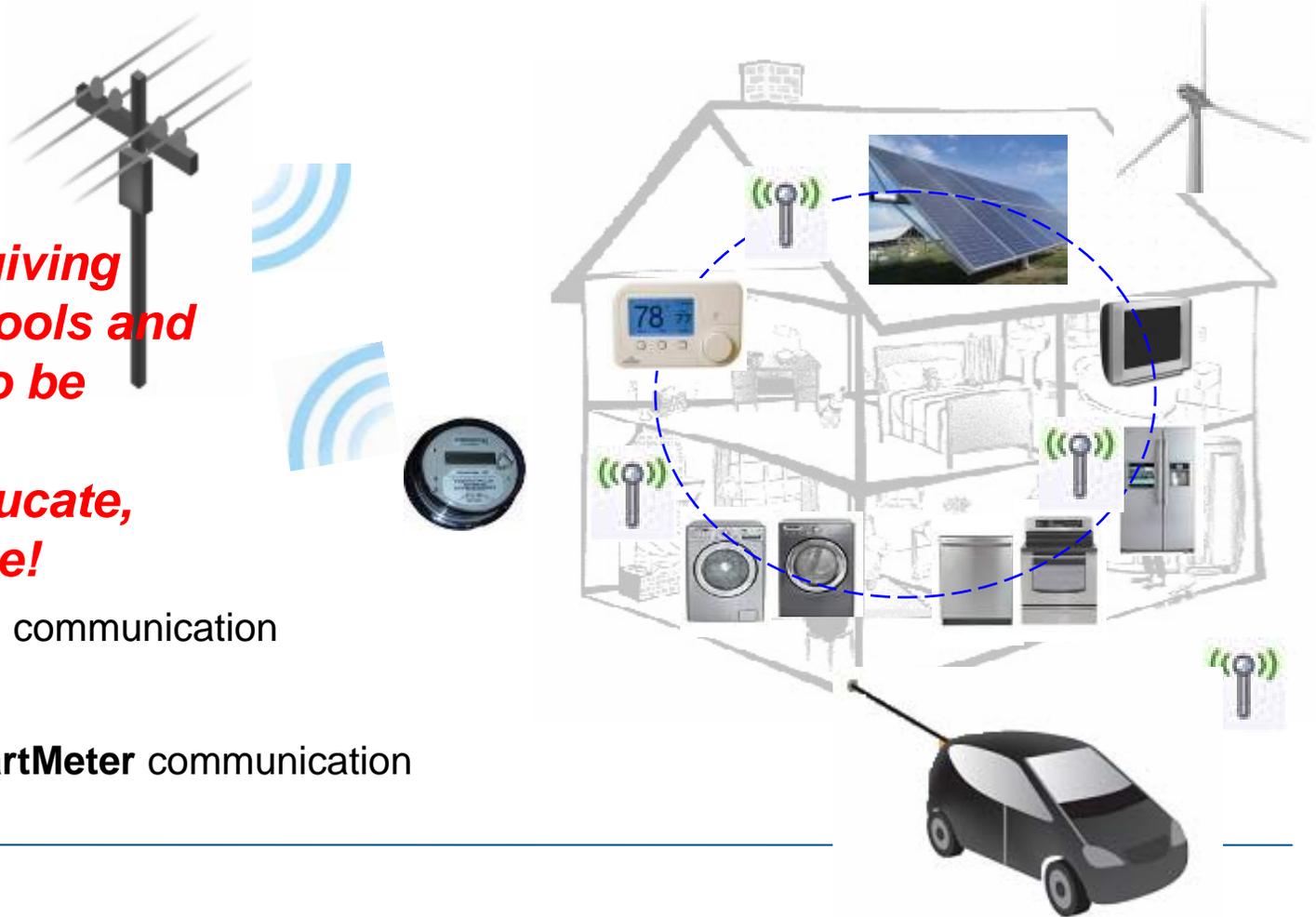
*...It's all about giving customers the tools and the know-how to be smarter energy consumers. Educate, educate, educate!*



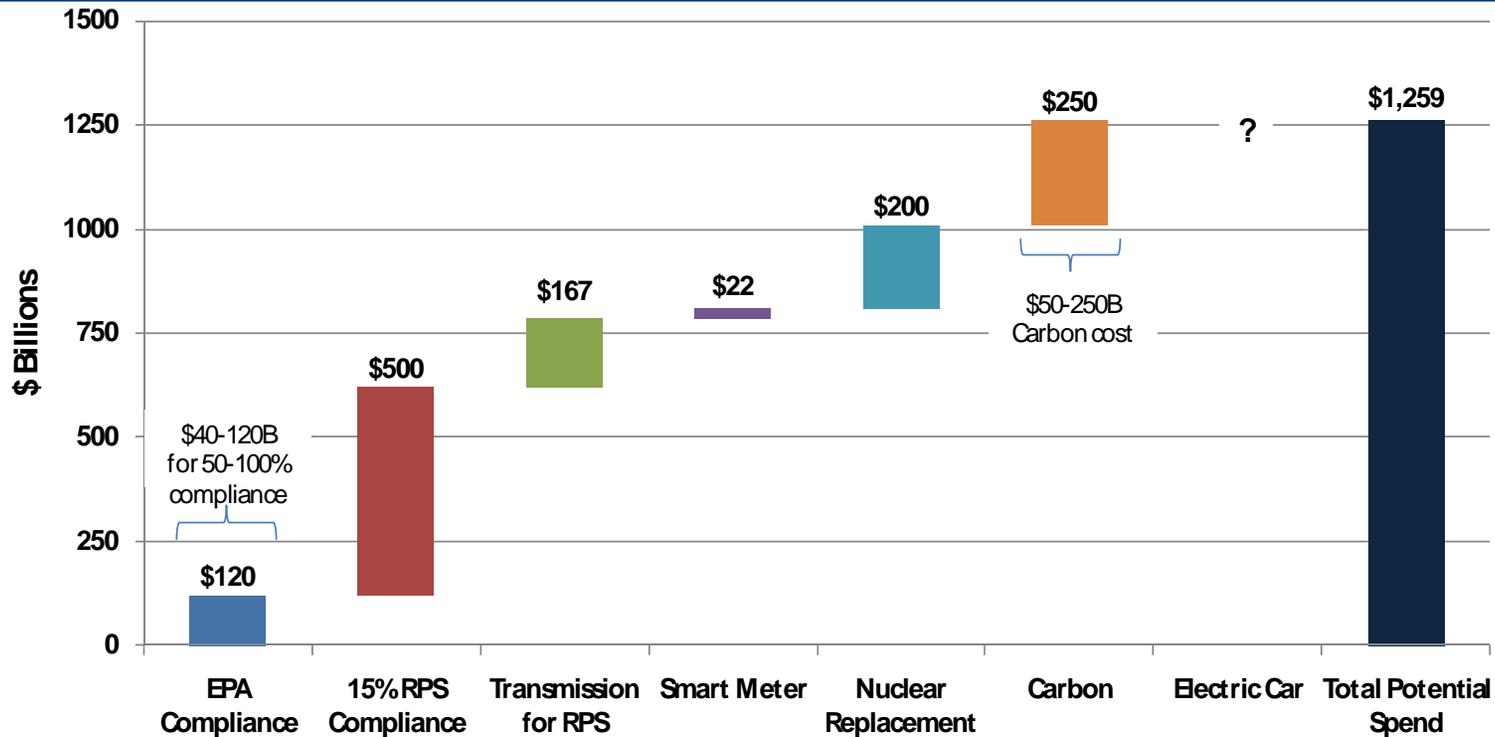
HAN communication



SmartMeter communication



# “Hey, ratepayers, can you spare a trillion?” Meters represent \$22 billion of \$1.26 trillion – less than 2%.



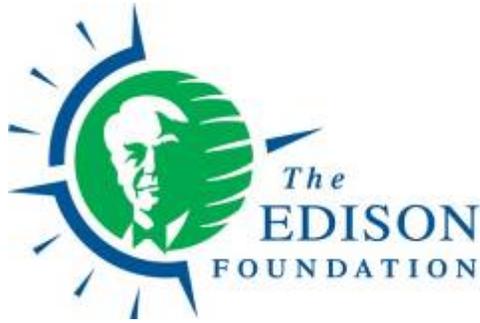
#### Assumptions

EPA Compliance: \$600/KW; RPS 15% by 2020, Transmission Cost 1/3 of RPS Spend; Smart Meter: 85% Implementation; Nuclear Replacement: 25 GW Replacement at \$8000/KW

Source: "Impediments to Achieving the Vision," Dan Eggers, Presented to the Aspen Institute Energy Policy Forum July 3rd, 2010. Based on *Energy Velocity*, NRC, Company Data, Credit Suisse Estimates

# Summary: Getting smart meters right is only a small part of the bigger picture

- Smart meters represent an integral part of a clean energy future and a more efficient grid.
- But, meters are only a small fraction of the future cost of developing clean power (1.7%)
- Is the debate over smart meters clouding the real issue? – What does the high cost of developing clean supply side resources – renewable energy, new nuclear, and clean coal – mean for U.S. electricity prices?



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The screenshot shows the website's header with the logo and tagline: "Advancing energy-efficiency practices and efficient pricing among electric utilities." Below the header is a navigation menu with links for "ABOUT IEE", "ISSUE BRIEFS", "NEWS & EVENTS", "REPORTS", "DATABASES", and "ONLINE ROUNDTABLE". The main content area features a "What's New" section with links to "Upcoming Events Register Now!" and "Energy Efficiency Success Stories". Below this is an "Ask IEE" section with a large question mark icon and text: "Program cost recovery? Lost margins? Decoupling? If the resources on this site have not answered your questions about program design and best practices, please contact us." To the right of the "Ask IEE" section is a large image of a city skyline at night. Below the skyline are three circular images: a smart meter, a compact fluorescent bulb (CFL), and a power outlet with a red plug. At the bottom of the page are three columns: "JOIN THE COMMUNITY", "EXTERNAL LINKS", and "ASK IEE". The footer contains the copyright notice: "© 2008 The Institute for Electric Efficiency. All rights reserved. [Contact Us](#). [Privacy Policy](#)."